

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 11-14 and 16-21 are pending in this case, Claim 19 having been presently amended. Support for amended Claim 19 can be found in the original claims, drawings, and specification.¹ No new matter has been added.

In the outstanding Office Action, Claims 11-14 and 16-20 were rejected under 35 U.S.C. § 102(a) as anticipated by Lingman et al. (U.S. Patent Publ. No. 2004/0167705; hereinafter “Lingman”); and Claim 21 was rejected under 35 U.S.C. § 103(a) as unpatentable over Lingman in view of Iwasaki (U.S. Patent No. 5,944,763).

In response to the rejections under 35 U.S.C. §§ 102(a) and 103(a), Applicants respectfully request reconsideration of the rejections and traverse the rejections as discussed next.

Independent Claim 11 is directed to a method for estimating total mass of a motor vehicle including, *inter alia*:

...estimating the inclination of the surface on which the motor vehicle is traveling based on the acceleration variation due to errors, the recursive least-squares algorithm depends on the inclination and ***has at least two modes, a flat mode when the inclination is within a predetermined interval of values corresponding to a plane surface, and a slope mode when the inclination is not within the predetermined interval of values corresponding to the plane surface.***

Page 3 of the outstanding Office Action, asserts that paragraphs [0020], [0028], [0044], [0073], and [0077] of Lingman describe that “the recursive least-squares algorithm depends on the inclination and has at least two modes, a flat mode when the inclination is within a predetermined interval of values corresponding to a plane surface, and a slope mode when the inclination is not within the predetermined interval of values corresponding to the

¹ See page 2, lines 17-22 and page 5, lines 12-17 of the specification.

plane surface,” as recited in Applicants’ independent Claim 11. Applicants respectfully disagree.

Paragraph [0044] of Lingman states:

Simultaneous estimation of the mass m of the vehicle and the gradient α of the road on which the vehicle is being driven is now possible by using the above state equation recursively utilizing the vehicle’s speed v and information about applied propulsion force f_p and retardation forces f_r . The propulsion force f_p consists of positive propulsion torque from an engine in the vehicle filtered via the vehicle’s transmission. The retardation forces f_r comprise retarding forces from wheels, auxiliary brakes and deterministic components of roll resistance and air resistance. In order to obtain a stable approximation of the state vector, in a preferred embodiment the process is stopped when the driver applies the service brake as the friction between the brake lining and the brake disc normally has great stochastic variation.

Thus, Paragraph [0044] of Lingman merely describes that the gradient of the road can be estimated based on an equation using inputs including a vehicle’s speed, propulsion forces, and retardation forces. Lingman does not describe measuring the gradient inclination with two modes, one mode in which the inclination is within a predetermined interval of values corresponding to a plane surface, and another mode in which the inclination is not within the predetermined interval of values corresponding to the plane surface. In fact, in Lingman there is no discussion of an *interval of values* corresponding to a planar surface. The other cited portions of Lingman, and all other portions, also do not describe the above features.

Accordingly, it is respectfully submitted that independent Claim 11 (and all claims depending thereon) patentably distinguishes over Lingman.

Independent Claim 19 is directed to a device for estimating total mass of a motor vehicle including, *inter alia*:

...wheel-speed sensors,
an engine-torque sensor,

a rate of rotation of an engine sensor,
a clutch-pedal position sensor configured to detect actuation of a clutch,
a brake-pedal position sensor,
means for detecting cornering of the vehicle,

Page 9 of the outstanding Office Action, in the Response to Arguments section, states that “element accelerator pedal 17 of Lingman meets the claimed ‘a clutch-pedal position sensor’ [see Lingman: Paragraphs [0006], [0051], [0055], [0070]].”

However, paragraph [0051] of Lingman describes that an internal combustion engine 11 is controlled by an engine control unit 16 which uses an input signal from an *accelerator pedal* 17 and where applicable a constant speed regulator 18. However, Lingman does not describe *a clutch-pedal position sensor configured to detect actuation of a clutch*. An accelerator pedal is not the same as a clutch pedal, as an accelerator pedal controls throttle, not the actuation of a clutch.

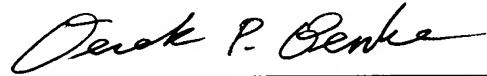
Thus, Applicants submit that independent Claim 19 (and all claims depending thereon) patentably distinguishes over Lingman. In addition, Applicants respectfully submit that Iwasaki fails to cure any of the above-noted deficiencies of Lingman.

Accordingly, Applicants respectfully request the rejections under 35 U.S.C. §§ 102(a) and 103(a) be withdrawn.

Consequently, in view of the present amendment, and in light of the above discussion, the pending claims as presented herewith are believed to be in condition for formal allowance, and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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